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How Blood Vessels Help the Brain Recover from Stroke

The regrowth of blood vessels helps the brain recover after a stroke. Researchers have found that one useful treatment for stroke is to combine a substance that produces **nitric oxide** with **bone marrow stromal cells**, but until recently they were not sure how and why this worked. OU Distinguished Professor **Mike Chopp** and his colleagues at Henry Ford Hospital recently tested the hypothesis that this combination treatment upregulates **angiopoietin-1**, a protein growth factor, and its receptor Tie2. In a paper titled "**Treatment of Stroke With (Z)-1-[N-(2-aminoethyl)-N(2-ammonioethyl) amino] diazen-1-ium-1, 2-diolate and Bone Marrow Stromal Cells Upregulates Angiopoietin-1/Tie2 and Enhances Neovascularization**," in the leading journal **Neuroscience** (vol. 156, pp. 155-164, 2008) they conclude that the "combination treatment of stroke with DETA-NONOate and bone marrow stromal cells promotes neovascularization, which is at least partially mediated by upregulation of the angiopoietin-1/Tie2 axis."

SUMMARY

The regrowth of blood vessels helps the brain recover after a stroke. Researchers have found that one useful treatment for stroke is to combine a substance that produces nitric oxide with bone marrow stromal cells, but until recently they were not sure how and why this worked.

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